KICKOUT FLASHING AND ASSOCIATED ASSEMBLY AND METHOD

FIELD OF THE INVENTION

This invention relates to a kickout flashing for directing water along an interface between members of a building, such as a vertical wall and a roof abutting the wall.

BACKGROUND OF THE INVENTION

Flashings are typically disposed at the interfaces formed between roofs and walls of buildings to prevent water from leaking through the interfaces to the underlying structures. One such interface in a typical building construction is the intersection of a slanted roof with a vertical exterior wall that extends higher than the roof such that the intersection extends perpendicular to the wall at a slant defined by the angle of the roof. L-shaped pieces of flexible metal flashing are typically provided at the intersection so that a first leg of each flashing is disposed against the roof and a perpendicular second leg is disposed against the wall. Successive pieces of the flashing are installed along the intersection so that each piece of flashing is overlapped by the next successively higher piece of flashing. Thus, water flowing along the intersection of the roof and wall flows to the bottom of the roof without penetrating the flashing to the underlying roof or wall materials. Typically, shingles and wood siding are installed on the roof and wall, respectively, at least partially covering the flashings. As an alternative to wood siding, conventional stucco or stone can be used.

At the bottom of the intersection, the lowermost piece of flashing is typically cut and bent to form an angled kickout in order to direct the water flowing down the roof away from the wall. The cut made in the flashing to facilitate bending and forming the kickout can result in leaking of water, which can flow into the wall behind the siding or under the shingles to the roof, thereby causing damage to the wall or the roof. Conventional kickouts are sometimes sealed with a weld or solder joint or

with caulk, but such seals require time for forming and can eventually leak, especially in the case of a caulk seal.

Thus, there exists a need for a device and method for use in directing water along interfacing members of a building and away from the interface, e.g., away from a vertical wall that is abutted by a slanted roof. The device should be relatively easy to install and economical to manufacture. Preferably, the device should be compatible with intersections of different orientations such that a single device can be selectively installed to direct water according to the orientation of each intersection.

SUMMARY OF THE INVENTION

The present invention provides a kickout flashing and an associated assembly and method for directing water along an interface defined between a roof and a wall. The flashing can be formed with an angled configuration so that the flashing does not need to be cut and bent to form an angle during installation. For example, the flashing can be formed of a unitary molded plastic member. Further, the flashing can be reversible so that the same flashing can be selectively installed at interfaces of different configurations.

According to one embodiment of the present invention, the kickout flashing includes a continuous roof portion that is configured to be disposed on a roof and first and second flanges extending perpendicularly from the roof portion. For example, the flanges can extend to a height of at least 3 inches from the roof portion, and preferably about 5 inches. The flanges define an obtuse angle therebetween, and a continuous passage extends along an intersection of the roof portion and each of the flanges for receiving water. Each of the flanges is adapted to be disposed against the wall with the other flange being configured to direct water flowing along the passage away from the wall. For example, the first and second flanges can be substantially equal in size, and the flashing can be substantially symmetric about a plane bisecting the obtuse angle between the flanges. In addition, a stop can extend between the first and second flanges to form a channel with the roof portion, e.g., parallel to the roof portion at a distance of between about 1/4 and 1 inch from the roof portion.

The present invention also provides a flashing assembly for directing water along an interface. The assembly includes a vertical wall, a roof that is perpendicular to the wall and defines the interface with the wall, and a flashing disposed at the

interface. A continuous roof portion of the flashing is disposed against the roof, and flanges extend perpendicularly from the roof portion to define a continuous passage extending along an intersection between the roof portion and each of the flanges for receiving water. The first flange is disposed against the wall, and the second flange define an obtuse angle with the first flange so that the second flange is configured to direct water flowing along the passage away from the wall. The flashing can be reversibly installed in an alternative assembly with the second flange disposed against a wall of the alternative assembly and the first flange configured to direct water flowing along the passage away from the wall of the alternative assembly. For example, the flanges can be substantially equal in size so that the flashing is substantially symmetric about a plane bisecting the obtuse angle between the flanges. One or more fasteners can be provided for connecting the flashing to the roof or the wall, and the roof portion and the second flange can be trimmed to define an edge that corresponds to an edge of the roof and the wall.

According to one method of the present invention, a roof portion of the flashing is disposed against the roof and one of the flanges is selectively disposed against the wall so that the other flange is configured to direct water flowing along the flanges away from the wall. For example, the flashing can be disposed with one of the flanges against the wall according to the orientation of the roof and the wall. One or more fasteners can then be used to connect the flashing to the roof or the wall. The flashing, which can be formed of a unitary molded plastic member, can be trimmed to remove part of the roof portion and one of the flanges so that the flashing defines an edge corresponding to an edge of the roof and the wall.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other advantages and features of the invention, and the manner in which the same are accomplished, will become more readily apparent upon consideration of the following detailed description of the invention taken in conjunction with the accompanying drawings, which illustrate preferred and exemplary embodiments, but which are not necessarily drawn to scale, wherein:

Figure 1 is a perspective view illustrating a building with a vertical wall and a slanted roof abutting the wall and defining an interface therebetween, with a kickout

flashing according to one embodiment of the present invention being disposed at a lower end of the wall-roof interface;

Figure 2 is an enlarged partial view of a portion of the interface of Figure 1 as indicated in Figure 1;

Figure 3 is a perspective view of the kickout flashing of Figure 1, shown in a first or "right-hand" orientation; and

Figure 4 is a perspective view of the kickout flashing of Figure 1, shown in a second or "left-hand" orientation.

DETAILED DESCRIPTION OF THE INVENTION

The present invention now will be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout.

Referring to the drawings and, in particular, to Figure 1, there is shown a kickout flashing **10** according to one embodiment of the present invention installed at the interface **30** of a building **36** where a slanted roof **34** abuts a vertical wall **32**. The kickout flashing **10** can be used in conjunction with conventional pieces of flashing, such as L-shaped flashings **38** that are arranged in a successively overlapping configuration along the wall-roof interface **30**. As shown in Figures 1 and 2, the kickout flashing **10** is configured to direct water flowing along the interface **30** away from the wall **32**, e.g., to prevent the water from leaking through siding **44** the wall **32** or shingles **42** on the roof **34** and damaging the underlying wall or roof materials to which the siding **44** and shingles **42** are attached.

Accordingly, the flashing **10** is preferably formed of a waterproof material. For example, the flashing **10** can be formed of a variety of materials including polymers, metals, and the like. In one advantageous embodiment of the invention, the flashing **10** is formed as a unitary member of plastic, such as polypropylene, polyethylene, or polyvinyl chloride (PVC). For example, the flashing **10** can be formed by a conventional injection molding operation using one or more dies that

cooperably define a die cavity corresponding to the configuration of the flashing **10** so as to form the flashing as a unitary, relatively rigid, molded plastic member.

As shown in Figure 3, the flashing **10** includes a roof portion **12** and first and second flanges **14, 16** extending therefrom. The roof portion **12** is continuous, i.e., is substantially free of cracks, holes, or other apertures through which water can flow. The flanges **14, 16** generally extend from the roof portion **12** at an angle that corresponds to the angle between the roof **34** and the wall **32**. For example, in the case where the wall **32** and roof **34** are perpendicular as shown in Figure 1, the flanges **14, 16** are similarly perpendicularly to the roof portion **12** of the flashing **10**. In addition, the first and second flanges **14, 16**, each of which can be planar, define an obtuse angle **A** therebetween. Thus, when the roof portion **12** is disposed against the roof **34**, an outer surface of one of the flanges **14, 16** (e.g., the first flange **14**, as shown in Figures 1 and 2) can be disposed against the wall **32** of the building **36** and secured thereto. The other flange (the second flange **16**, as shown in Figures 1 and 2) is disposed at an angle relative to the wall **32**. Thus, the flashing **10** defines a continuous passage **18** that extends along an intersection **20** of the roof portion **12** and each of the flanges **14, 16**, and the passage **18** is nonlinear by virtue of the obtuse angle **A** defined between the flanges **14, 16**. As water flows from the wall **32** or roof **34** through the flashing **10**, the water is directed along the continuous roof portion **12** in direction **22** away from the intersection **20** and away from the wall **32**. A height **H** of the flanges **14, 16**, as measured in a direction perpendicular to the roof portion **12**, can be sufficiently large so that water does not typically flow over the flanges **14, 16** and out of the passage **18** of the flashing **10**. For example, according to one embodiment of the present invention, each of the flanges **14, 16** has a height **H** of at least about 3 inches, and preferably about 5 inches.

While the flashing **10** of the present invention is not limited to any particular angle or range of angles between the flanges **14, 16**, it is appreciated that the angle **A** can be designed according to such factors as the slant angle of the roof **34**, the size of the flashing **10**, the expected maximum flow of water through the flashing **10**, and the like. In particular, it is understood that the water flowing through the flashing **10** can be diverted away from the wall **32** to a greater extent by decreasing the angle **A** between the flanges **14, 16**. However, if the angle **A** is too small, some of the water may spill over the second flange **16**. According to one embodiment of the present

invention, the obtuse angle **A** between the flanges **14, 16** is between about 100 and 140 degrees.

In one advantageous embodiment of the present invention, the flashing **10** is reversible, i.e., the flashing **10** can be selectively installed in multiple configurations. For example, the first and second flanges **14, 16** can be substantially equal in size so that the flashing **10** is substantially symmetric about a plane bisecting the obtuse angle **A** between the flanges **14, 16**. Thus, the flashing **10** can be selectively installed in alternate orientations with either of the flanges **14, 16** disposed against the wall **32** and the other of the flanges **14, 16** extending at an angle from the wall **32** to direct water flowing through the passage **18** away from the wall **32**. More particularly, the flashing **10** can be installed in a "right-hand" orientation, as shown in Figures 1-3, with the first flange **14** disposed against the wall **32** and the second flange **16** configured to direct water away from the wall **32** in direction **22**. Alternatively, the flashing **10** can be installed in a "left-hand" orientation, as shown in Figure 4, with the second flange **16** disposed against the wall **32** and the first flange **14** configured to direct water away from the wall **32** in direction **24**. In addition, an edge **26** of the roof portion **12** that is opposite the flanges **14, 16** can define the same obtuse angle **A** that is defined between the flanges **14, 16** so that part of the edge **26** is parallel to the first flange **14** and part of the edge **26** is parallel to the second flange **16**.

Thus, the flashing **10** can be selectively installed in either orientation according to the orientation of the wall **32** and the roof **34**. That is, if the roof **34** is situated to the right of the wall **32**, as viewed from the ground in front of the roof **34** and as shown in Figure 1, the flashing **10** can be installed in the right-hand orientation so that water is directed away from the wall in direction **22**. Alternatively, if the roof **34** is situation to the left of the wall **32**, i.e., a mirror image of Figure 1, the flashing **10** can be installed in the left-hand orientation to direct water in direction **24** and away from the wall **32**. Such reversibility of the flashing **10** can reduce the number of variations in the flashing **10** that must be manufactured, supplied, and inventoried, thereby simplifying the manufacture and overall use of the flashing **10** and possibly reducing the costs associated with its manufacture and use.

As shown in the figures, the flashing **10** can also include a tab or siding stop **28** that extends between the flanges **14, 16** generally parallel to and spaced above the roof portion **12**. The stop **28** and the roof portion **12** define a channel therebetween

through which water can flow, and the siding stop **28** prevents material from falling into the channel. For example, if the kickout flashing **10** is installed before stucco siding is applied to the wall **32**, the stop **28** can prevent uncured stucco from falling into the channel and blocking the flow of water through the flashing **10**. The stop **28** can also prevent other types of siding, debris such as leaves, or the like from falling onto the roof portion **12** and blocking the flow of water through the flashing **10**. Typically, the width **W** of the channel as measured between the stop **28** and the roof portion **12** is between about 1/4 inch and 1 inch, though various other configurations of the stop **28** can alternatively be used.

During one typical installation operation, the flashing **10** is provided as a unitary molded plastic member, which is relatively rigid and defines the roof portion **12** and flanges **14, 16** as described above. Generally, the kickout flashing **10** has an angled configuration for directing water away from the wall **32** and does not need to be cut or bent during installation to achieve the angled configuration. The flashing **10** is disposed in the interface **30** of the wall **32** and the roof **34** according to the orientation of the wall **32** and roof **34**. That is, if the wall **32** and roof **34** define a right-hand orientation, the first flange **14** is disposed against the wall **32** so that water will flow through the passage **18** in the direction **22** from the first flange **14** toward the second flange **16**. Alternatively, if the wall **32** and roof **34** define a left-hand orientation, the second flange **16** is disposed against the wall **32** so that the water will flow through the passage **18** in the direction **24** from the second flange **16** toward the first flange **14**. One or more fasteners **40** can be provided for connecting the flashing **10** to the roof **32** or the wall **34**. For example, nails, screws, an adhesive, or the like can be used to secure the flashing **10** in place. Typically, the flashing **10** is then at least partially covered. For example, shingles **42** can be secured to the roof **34** to overlap the roof portion **12** of the flashing **10**, and siding **44** can be disposed on the wall **32** to overlap whichever flange **14, 16** is positioned against the wall **32**. Various types of siding **44** can be used including, but not limited to, wood, vinyl, or aluminum strip siding, bricks, stucco, and the like. In some cases, if fasteners are to be driven through the flashing **10** to secure the flashing **10** to the wall **32** or roof **34**, the nails can be positioned on a portion of the flashing **10** that is to be overlapped by a successive piece of flashing **38**, shingle **42**, siding **44**, or the like.

In addition, the roof portion **12** and/or the flange extending from the wall **32**, i.e., the second flange **16** as shown in Figures 1 and 2, can be trimmed. For example, as shown in Figure 2, the roof portion **12** and the second flange **16** can be trimmed along dashed line **46** to form an edge that corresponds to an edge of the roof **34** and to the wall **32**. For example, the flashing **10** can be trimmed to extend from the roof **34** by a particular distance. In some embodiments, the second flange **16** and the roof portion **12** can be trimmed so that neither the roof portion **12** nor the second flange **16** extends from the roof **34**. For example, while the second flange **16** is shown to extend entirely beyond the roof **34** in Figure 2, the flashing **10** can also be installed so that the second flange **16** partially overlaps the roof **34**. In that case, the second flange **16** can divert the flow of water away from the wall **32** before the water reaches the lower edge of the roof **34**, and the second flange **16** and/or the roof portion **12** of the flashing **10** can be trimmed to be coterminous with the roof **34**. Of course, if the flashing **10** is installed in a left-hand orientation with the second flange **16** against the wall **34**, the first flange **14** can instead be trimmed with the roof portion **12** accordingly.

Many modifications and other embodiments of the invention will come to mind to one skilled in the art to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.